

1. Before endorsing a candidate for political office, a newspaper editor surveys 200 randomly selected readers and finds that 120 favor the candidate in question. At a .05 level of significance, test the editor's claim that the candidate is favored by 67% of the readers, against the claim that this is not the case.
2. *The Late Show with David Letterman* is seen by a relatively large percentage of household members who record the show for viewing at a more convenient time. The show's marketing manager claims that the mean income of households with TiVo recorders is greater than \$75,000. At a .05 level of significance, test the manager's claim. A sample of 1700 households with TiVo produces a sample mean of \$76,182 and an assumed population standard deviation of \$19,990.
3. A sociologist develops a test to measure attitudes about public transportation, and 24 randomly selected subjects are given the test. Their mean is 66.2 and their standard deviation is 23.4. Test the claim that the mean is less than 70 using a .05 significance level. The sociologist has evidence that the sample is drawn from a normal population.
4. A test of abstract reasoning is given to a random sample of students before and after they completed a formal logic course. The results are given below. At a .01 level of significance, test the claim that the average is higher after taking the logic course. Assume the distribution of differences is normal.

Before	73	77	71	77	77	67	95	83	84	75
After	76	83	75	88	88	63	93	84	91	77